

Calcific Uremic Arteriopathy Revealed Via Hand Radiography

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A 45-year-old man presented with hand arthralgia and morning stiffness lasting for about an hour, which started 6 months ago. He started hemodialysis 2 years ago due to end-stage renal disease (ESRD) caused by diabetic nephropathy. Physical examination revealed tenderness of the metacarpophalangeal, proximal interphalangeal, and distal interphalangeal joints of both hands. However, there were no definite swelling of these joints. Laboratory investigations revealed normal calcium and phosphorus levels. Intact parathyroid hormone (PTH) level (69.4 pg/mL) was slightly higher than the upper limit of normal (65 pg/mL). Rheumatoid factor and anti-cyclic citrullinated peptide antibody were negative, and no skin lesions were found on the hand. Although hand radiography revealed no bony abnormalities, marked vascular calcifications were observed along the radial artery, ulnar artery, deep palmar arch, common palmar digital arteries, and proper palmar digital arteries (arrow heads in Figure 1). Despite the lack of typical skin findings, calcific uremic arteriopathy (CUA) was diagnosed based on radiographic findings. CUA is a condition seen in patients with kidney disease, especially in those with ESRD [1]. Uremia predisposes patients to markedly increased levels of reactive oxygen species and inflammation, which adversely affect the endothelial function and promote arteriopathy [2]. Hypercalcemia, hyperphosphatemia, and elevated PTH promote this vascular condition, although it can also be observed in normal calcium/phosphate metabolism [3]. Sodium thiosulfate and correcting abnormalities of calcium, phosphorus, and PTH levels, if present, can be beneficial [2]. As presented herein, CUA in-



Figure 1. Radiograph of the hand in anteroposterior view shows vascular calcifications (arrow heads).

volving the digital arteries can mimic symptoms of rheumatoid arthritis and can be readily distinguished by radiography. Thus, hand radiography, an inexpensive and widely available diagnostic tool, can be helpful for the differential diagnosis of patients with ESRD complaining of hand arthralgia.

CONFLICT OF INTEREST

No potential conflict of interest relevant to this article was reported.

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